

10/019228  
 JC10 Rec'd PCT/PTO 29 DEC 2001

FORM PTO-1390 (REV. 11-2000)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY'S DOCKET NUMBER  0104-0374P
<b>TRANSMITTAL LETTER TO THE UNITED STATES          DESIGNATED/ELECTED OFFICE (DO/EO/US)          CONCERNING A FILING UNDER 35 U.S.C. 371</b>			U.S. APPLICATION NO. (if known, see 37 CFR 1.5)  <b>10/019228</b>
INTERNATIONAL APPLICATION NO.  PCT/SE00/01163	INTERNATIONAL FILING DATE  June 6, 2000	PRIORITY DATE CLAIMED  June 29, 1999	
TITLE OF INVENTION  HOSE			
APPLICANT(S) FOR DO/EO/US  RYHMAN, Morgan			
<b>Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information.</b>			
<ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a filing under 35 U.S.C. 371.</li> <li>2. <input type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a filing under 35 U.S.C. 371.</li> <li>3. <input checked="" type="checkbox"/> This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39 (1).</li> <li>4. <input checked="" type="checkbox"/> The US has been elected by the expiration of 19 months from the priority date (Article 31).</li> <li>5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2))           <ol style="list-style-type: none"> <li>a. <input checked="" type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau). WO 01/01029</li> <li>b. <input type="checkbox"/> has been transmitted by the International Bureau</li> <li>c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US).</li> </ol> </li> <li>6. <input type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).           <ol style="list-style-type: none"> <li>a. <input type="checkbox"/> is transmitted herewith.</li> <li>b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4)</li> </ol> </li> <li>7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))           <ol style="list-style-type: none"> <li>a. <input type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau).</li> <li>b. <input type="checkbox"/> have been transmitted by the International Bureau.</li> <li>c. <input type="checkbox"/> have not been made, however, the time limit for making such amendments has NOT expired</li> <li>d. <input checked="" type="checkbox"/> have not been made and will not be made</li> </ol> </li> <li>8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3))</li> <li>9. <input type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).</li> <li>10. <input type="checkbox"/> An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).</li> </ol>			
<b>Items 11. to 20. below concern document(s) or information included:</b>			
<ol style="list-style-type: none"> <li>11. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98, Form PTO-1449(s), and International Search Report (PCT/ISA/210) with 5 cited document(s)</li> <li>12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</li> <li>13. <input checked="" type="checkbox"/> A <b>FIRST</b> preliminary amendment.</li> <li>14. <input type="checkbox"/> A <b>SECOND</b> or <b>SUBSEQUENT</b> preliminary amendment.</li> <li>15. <input type="checkbox"/> A substitute specification.</li> <li>16. <input type="checkbox"/> A change of power of attorney and/or address letter.</li> <li>17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821-1.825.</li> <li>18. <input type="checkbox"/> A second copy of the published international application under 35 U.S.C. 154(d)(4)</li> <li>19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4)</li> <li>20. <input checked="" type="checkbox"/> Other items or information.           <ol style="list-style-type: none"> <li>1.) International Preliminary Examination Report (PCT/IPEA/409)</li> <li>2.) Three (3) Sheets of Formal Drawings</li> </ol> </li> </ol>			

U.S. APPLICATION NO (if known, see 37 CFR 1.5) <b>10/019228</b>	INTERNATIONAL APPLICATION NO PCT/SE00/01163	ATTORNEY'S DOCKET NUMBER 0104-0374P
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21. <input checked="" type="checkbox"/> The following fees are submitted <b>BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(5)):</b> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO. . . . . <b>\$1,040.00</b>  International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO. . . . . <b>\$890.00</b>  International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO. . . . . <b>\$740.00</b>  International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) . . . . . <b>\$710.00</b>  International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) . . . . . <b>\$100.00</b> <b>ENTER APPROPRIATE BASIC FEE AMOUNT =</b>	<b>CALCULATIONS PTO USE ONLY</b>																																																																	
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Surcharge of <b>\$130.00</b> for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input checked="" type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).	<b>\$ 130.00</b>																																																																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">CLAIMS</th> <th style="width: 20%;">NUMBER FILED</th> <th style="width: 20%;">NUMBER EXTRA</th> <th style="width: 20%;">RATE</th> <th style="width: 20%;"></th> </tr> </thead> <tbody> <tr> <td>Total Claims</td> <td>22 - 20 =</td> <td>2</td> <td>X \$18.00</td> <td style="text-align: right;"><b>\$ 36.00</b></td> </tr> <tr> <td>Independent Claims</td> <td>1 - 3 =</td> <td>0</td> <td>X \$84.00</td> <td style="text-align: right;"><b>\$ 0.00</b></td> </tr> <tr> <td colspan="4">MULTIPLE DEPENDENT CLAIM(S) (if applicable) Yes</td> <td style="text-align: right;"><b>\$ 280.00</b></td> </tr> <tr> <td colspan="4" style="text-align: right;"><b>TOTAL OF ABOVE CALCULATIONS =</b></td> <td style="text-align: right;"><b>\$ 1,486.00</b></td> </tr> <tr> <td colspan="4"><input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2</td> <td style="text-align: right;"><b>\$ 0.00</b></td> </tr> <tr> <td colspan="4" style="text-align: right;"><b>SUBTOTAL =</b></td> <td style="text-align: right;"><b>\$ 1,486.00</b></td> </tr> <tr> <td colspan="4">Processing fee of <b>\$130.00</b> for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).</td> <td style="text-align: right;"><b>\$ 0.00</b></td> </tr> <tr> <td colspan="4" style="text-align: right;"><b>TOTAL NATIONAL FEE =</b></td> <td style="text-align: right;"><b>\$ 1,486.00</b></td> </tr> <tr> <td colspan="4">Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). <b>\$40.00</b> per property +</td> <td style="text-align: right;"><b>\$ 0.00</b></td> </tr> <tr> <td colspan="4" style="text-align: right;"><b>TOTAL FEES ENCLOSED =</b></td> <td style="text-align: right;"><b>\$ 1,486.00</b></td> </tr> <tr> <td colspan="4"></td> <td style="text-align: right;"><b>Amount to be: refunded \$</b></td> </tr> <tr> <td colspan="4"></td> <td style="text-align: right;"><b>charged \$</b></td> </tr> </tbody> </table>	CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		Total Claims	22 - 20 =	2	X \$18.00	<b>\$ 36.00</b>	Independent Claims	1 - 3 =	0	X \$84.00	<b>\$ 0.00</b>	MULTIPLE DEPENDENT CLAIM(S) (if applicable) Yes				<b>\$ 280.00</b>	<b>TOTAL OF ABOVE CALCULATIONS =</b>				<b>\$ 1,486.00</b>	<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2				<b>\$ 0.00</b>	<b>SUBTOTAL =</b>				<b>\$ 1,486.00</b>	Processing fee of <b>\$130.00</b> for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				<b>\$ 0.00</b>	<b>TOTAL NATIONAL FEE =</b>				<b>\$ 1,486.00</b>	Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). <b>\$40.00</b> per property +				<b>\$ 0.00</b>	<b>TOTAL FEES ENCLOSED =</b>				<b>\$ 1,486.00</b>					<b>Amount to be: refunded \$</b>					<b>charged \$</b>	
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- a.  A check in the amount of \$ **1,486.00** to cover the above fees is enclosed.
- b.  Please charge my Deposit Account. No. \_\_\_\_\_ in the amount of \$ \_\_\_\_\_ to cover the above fees.  
A duplicate copy of this sheet is enclosed.
- c.  The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 02-2448.

**NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.**

Send all correspondence to  
**Birch, Stewart, Kolasch & Birch, LLP** or Customer No. 2292  
 P.O. Box 747  
 Falls Church, VA 22040-0747  
 (703) 205-8000

Date: December 28, 2001

By Joe McKinney Muncy  
 Joe McKinney Muncy, #32,334

PATENT  
0104-0374P

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant: RYHMAN, Morgan  
Int'l. Appl. No.: PCT/SE00/01163  
Appl. No.: New Group:  
Filed: December 28, 2001 Examiner:  
For: HOSE

PRELIMINARY AMENDMENT

**BOX PATENT APPLICATION**

Assistant Commissioner for Patents  
Washington, DC 20231

December 28, 2001

Sir:

The following Preliminary Amendments and Remarks are respectfully submitted in connection with the above-identified application.

AMENDMENTS

IN THE SPECIFICATION:

Please amend the specification as follows:

Before line 1, insert --This application is the national phase under 35 U.S.C. § 371 of PCT International Application No. PCT/SE00/01163 which has an International filing date of June 6, 2000, which designated the United States of America and was published in English.--



Docket No. 0104-0374P

c h a r a c t e r i s e d i n  
that the hose along its inner circumference is provided with an  
elastic material.

16. (Amended) A method according to claim 13,  
c h a r a c t e r i s e d i n  
that the form material is an elastic material, which extends  
along the circumference of the hose material.

18. (Amended) A method according to claim 13,  
c h a r a c t e r i s e d i n that the form material is removed  
from the hose material in order to form the completed hose.

Docket No. 0104-0374P

REMARKS

The specification has been amended to provide a cross-reference to the previously filed International Application.

The claims have been amended to delete improper multiple dependencies.

Entry of the above amendments is earnestly solicited. An early and favorable first action on the merits is earnestly solicited.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By Joe McKinney Muncy  
Joe McKinney Muncy, #32,334

P.O. Box 747  
Falls Church, VA 22040-0747  
(703) 205-8000

KM/rem  
0104-0374P

Attachment: VERSION WITH MARKINGS TO SHOW CHANGES MADE

Docket No. 0104-0374P

VERSION WITH MARKINGS TO SHOW CHANGES MADE

The specification has been amended to provide a cross-reference to the previously filed International Application.

IN THE CLAIMS:

The claims have been amended as follows:

4. (Amended) A medium-carrying hose according to [any one of claims 1-3] claim 1,  
c h a r a c t e r i s e d i n  
that the expansion portion is a groove in the hose casing when this is in an unexpanded state.

8. (Amended) A medium-carrying hose according to [any one of claims 5-7] claim 5,  
c h a r a c t e r i s e d i n  
that the cross-sectional shape of the groove is different in different parts of the hose.

9. (Amended) A medium-carrying hose according to [any one of claims 1-8] claim 1,  
c h a r a c t e r i s e d i n  
that the hose has at least two expansion portions, which are uniformly distributed along the circumference of the hose casing.

10. (Amended) A medium-carrying hose according to [any one of claims 1-9] claim 1,  
c h a r a c t e r i s e d i n  
that the hose has four wall portions in addition to four expansion portions, which are alternately arranged along the circumference of the hose casing.

Docket No. 0104-0374P

11. (Amended) A medium-carrying hose according to [any one of claims 1-10] claim 1,  
c h a r a c t e r i s e d i n  
that the hose along its circumference is provided with an elastic material.

12. (Amended) A medium-carrying hose according to [any one of claims 1-10] claim 1,  
c h a r a c t e r i s e d i n  
that the hose along its inner circumference is provided with an elastic material.

16. (Amended) A method according to [any one of claims 13-15] claim 13,  
c h a r a c t e r i s e d i n  
that the form material is an elastic material, which extends along the circumference of the hose material.

18. (Amended) A method according to [any one of claims 13-16] claim 13, c h a r a c t e r i s e d i n that the form material is removed from the hose material in order to form the completed hose.

(Rev 11/13/01)



3/pst

HOSE

Field of the Invention

The present invention relates to a medium-carrying hose, preferably for pressure medium and for use in e.g. engine compartments, the wall of the hose comprising at least one wall portion which is connected with at least one expansion portion to form a continuous hose casing. The circumference of the hose is variable between a minimum value, when the expansion portion is unexpanded, and a maximum value, when the expansion portion is maximally expanded.

The invention also relates to a method for manufacturing such a hose.

Background Art

Hoses of the type that is used in engine compartments are subjected to various effects of the surroundings. For instance, they can be subjected to pressure, from inside or from outside, or to relatively powerful vibrations as the engine is running. The space for hoses in motor compartments and the like is usually very limited. For an engine unit to be compact in terms of space, it is often necessary that the hoses be preformed and bent in given directions to fit between the other components of the engine. However there is one problem since the hose, when pressurised, tends to move or bulge in the engine compartment. The hose may then abut against other parts of the engine body, which for instance because of their temperature may damage the hose. This situation may also arise if the hose vibrates in the operation of the engine. Both pressurising and vibration besides cause a strain to the attachment of the hose in the engine unit.

There are today a plurality of hoses which have some kind of bellows structure at their ends, thereby reducing the vibrations in the attachment of the hose. However,



hose, the direction of motion of the different parts in a desirable manner. The relationships of the wall and expansion portions can also differ in different parts along the hose.

5 In such a hose, which is preformed to have a certain extent in the longitudinal direction, as is often the case of hoses intended for engine compartments, the design of, and the relationships of, the wall and expansion portions in the hose casing in each part of the hose  
10 is preferably adapted to the preform of the hose in the respective parts. One and the same preformed hose can thus advantageously be provided with differently formed expansion and wall portions.

15 Preferably the expansion portion may consist of a groove in the hose casing when this is in an unexpanded state. Such a groove is relatively easy to form by means of a design in which the expansion portion is formed in unity with the wall portion. The expansion of the groove can besides be controlled with the aid of the shape of  
20 its cross-section.

25 Preferably the groove is helically turned seen in the longitudinal direction of the hose. The helical shape means directly that the expansion portion is oriented both in the transverse and in the longitudinal direction of the hose. Pressure and shocks in both directions are therefore efficiently absorbed by the hose.

30 The number of turns of the helical groove per unit of length of the hose may be varied to control the hose as desired. The groove may also have different direction of turning in different parts of the hose, or different cross-sectional shape in different parts of the hose. This results in many possibilities of variation.

35 Preferably the hose has one or more expansion portions, which are distributed along the circumference of the hose casing, for satisfactory distribution of the pressure and/or shock equalisation in each individual case.

The invention also relates to a method for manufacturing a hose according to the invention, in which the hose material is extruded. In addition to the hose material and together with this, a form material is extruded which is adapted to be a preform for the hose material for the desired configuration of expansion portions and wall portions. This preform serves to facilitate the process of extrusion. When the hose material, before blowing, has a relatively small diameter, there is a great risk that parts of the hose adhere to each other. This concerns in particular the expansion portions whose dimensions in the non-blown state are relatively small. A supporting form with expansion and wall portions is formed of the form material during extrusion and prevents problems in the forming of the hose material.

The form material is suitably arranged along the outer circumference of the hose material, which gives practical advantages in the method.

Preferably the form material is accumulated in the portions of the hose material which are intended to form expansion portions. These portions usually constitute formed portions such as grooves. The bulging shape which is necessary for the hose is produced by means of an elevated portion in the form material, thus a thicker portion of form material.

The form material can advantageously consist of an elastic material which extends along the circumference of the hose material. The form material of the completed hose will then be arranged along the circumference of the hose material and provides a smooth outer face for the hose. The elasticity of the material serves to make it possible for the expansion portions still to assume an unexpanded and an expanded state. A smooth outer face round the hose is advantageous since it is easier to keep clean than a hose with exposed expansion portions. The hose is then along its circumference provided with an elastic material.

Brief Description of the Drawings

Fig. 1 shows an embodiment of a hose according to the invention.

Fig. 2 is a cross-sectional view along line II-II of the hose in Fig. 1.

Fig. 3 is a cross-sectional view along line III-III of the hose in Fig. 1.

Fig. 4 shows a second embodiment of a hose according to the invention.

Fig. 5 is a cross-sectional view along line V-V of the hose in Fig. 4.

Fig. 6 is a cross-sectional view along line VI-VI of the hose in Fig. 4.

Fig. 7 shows a third embodiment of a hose according to the invention.

Fig. 8 is a cross-sectional view along line VII-VII of the hose in Fig. 7.

Fig. 9 is a cross-sectional view of one more embodiment of a hose according to the invention.

Description of Preferred Embodiments

Fig. 1 illustrates a preferred embodiment of a hose according to the invention. The hose is preformed with a plurality of bends 1, 2 and a straight central portion 3. The circumferential surface of the hose is formed with grooves 4 which extend along the hose. In the first bent part 1 of the hose, the grooves 4 are helically turned along the hose. In this portion 1, shocks as well as pressure can be absorbed in several directions. In the second straight portion 3 of the hose, the number of turns of the helix per unit of length is considerably smaller, i.e. so small that the groove 4 extends essentially along the hose. In the middle of the straight portion 3, the helical groove 4 changes direction round the hose in order to form in this new direction a helix having a larger number of turns per unit of length in the last, bent part 2 of the hose.



which may be advantageous for the flow through the hose. The cross-section of such an embodiment of a hose according to the invention is shown in Fig. 9.

It goes without saying that many embodiments in addition to those described above are feasible. The shapes of the hoses and the grooves 4 can be varied in many ways. Instead of having grooves, the expansion portions can be designed in some other fashion, provided that efficient expansibility is obtained. For instance, the expansion portions 4 can be made of an elastic material which is put together with the wall portions 5, or of a weakened area which owing to its thinner wall thickness will be more elastic than the surrounding wall portions 5. By varying the above different parameters, the hose portions can thus be made to be displaced in the desired direction in pressurising or in case of vibrations. Of course, the preform of the hose can also be of a different design, according to the purpose of the hose. It should also be noted that a hose according to the invention, thanks to the expansion portions, can be made flexible. Also the direction of the flexibility is then dependent on the relationship of the expansion portions 4 and the wall portions 5.

Hoses according to the invention may also be provided with certain parts without any vibration-absorbing arrangements whatever.

Although the embodiments described above constitute hoses with a groove having a varying direction of turning in different parts of the hose, it is possible to have the same direction of turning along the entire hose. The cross-sectional shape may also be varied or constant along the hose, according to the requirements in the individual case. The hose can have one or more expansion portions, which can be uniformly or irregularly arranged.

It is also possible to have hoses where an elastic material is arranged both on the outer and on the inner circumference of the hose. The arrangement of elastic





ART 34 AMDT

AMENDED CLAIMS

1. A medium-carrying hose, preferably for pressure  
medium and for use in e.g. engine compartments, the wall  
5 of the hose comprising at least one wall portion (5)  
which is connected with at least one expansion portion  
(4) to form a continuous hose casing, so that the  
circumference of the hose is variable between a minimum  
value, when the expansion portion (4) is unexpanded, and  
10 a maximum value, when the expansion portion (4) is  
maximally expanded and said expanded portion (4) extends  
in the transverse and the longitudinal direction of the  
hose, the wall portions (5) being displaced relative to  
each other in the transverse as well as the longitudinal  
15 direction of the hose as the circumference increases and  
the expansion portion (4) expands,  
c h a r a c t e r i s e d i n  
that the wall and expansion portions (5, 4) are  
differently formed in different parts (1, 2, 3) along the  
20 hose in order to control, during expansion or vibration  
of the hose, the direction of motion of the different  
parts (1, 2, 3) in a desirable manner.

2. A medium-carrying hose according to claim 1,  
c h a r a c t e r i s e d i n  
25 that the relationships of the wall and expansion portions  
(5, 4) are different in different parts along the hose  
(1, 2, 3) in order to control, during expansion of the  
hose, the direction of motion of the different parts (1,  
2, 3) in a desirable manner.

30 3. A medium-carrying hose according to claim 1 or 2,  
c h a r a c t e r i s e d i n  
that the hose is preformed to have a certain extent in  
the longitudinal direction, and that the design of, and  
the relationships of, the wall and expansion portions (5,  
35 4) in the hose casing in each part of the hose is adapted  
to the preform of the hose in the respective parts (1, 2,  
3) of the hose.

ART 34 AMDT

4. A medium-carrying hose according to any one of  
claims 1-3,  
c h a r a c t e r i s e d i n  
that the expansion portion is a groove in the hose casing  
5 when this is in an unexpanded state.

5. A medium-carrying hose according to claim 4,  
c h a r a c t e r i s e d i n  
that the groove is helically turned seen in the  
longitudinal direction of the hose.

10 6. A medium-carrying hose according to claim 5,  
c h a r a c t e r i s e d i n  
that the helical groove has a varying number of turns per  
unit of length of the hose.

15 7. A medium-carrying hose according to claim 5 or 6,  
c h a r a c t e r i s e d i n  
that the helical groove has different direction of  
turning in different parts of the hose.

20 8. A medium-carrying hose according to any one of  
claims 5-7,  
c h a r a c t e r i s e d i n  
that the cross-sectional shape of the groove is different  
in different parts of the hose.

25 9. A medium-carrying hose according to any one of  
claims 1-8,  
c h a r a c t e r i s e d i n  
that the hose has at least two expansion portions, which  
are uniformly distributed along the circumference of the  
hose casing.

30 10. A medium-carrying hose according to any one of  
claims 1-9,  
c h a r a c t e r i s e d i n  
that the hose has four wall portions in addition to four  
expansion portions, which are alternately arranged  
along the circumference of the hose casing.

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11. A medium-carrying hose according to any one of  
claims 1-10,  
c h a r a c t e r i s e d i n  
that the hose along its circumference is provided with an  
5 elastic material.

12. A medium-carrying hose according to any one of  
claims 1-10,  
c h a r a c t e r i s e d i n  
that the hose along its inner circumference is provided  
10 with an elastic material.

13. A method for manufacturing a hose according to  
claim 1 by extruding the materials forming the hose,  
c h a r a c t e r i s e d b y  
extruding, in addition to the hose material and together  
15 with this, a form material, which is adapted to be a  
preform for the hose material for the desired  
configuration of the expansion portions and wall  
portions.

14. A method according to claim 13,  
20 c h a r a c t e r i s e d i n  
that the form material is arranged along the outer  
circumference of the hose material.

15. A method according to claim 13 or 14,  
c h a r a c t e r i s e d i n  
25 that the form material is accumulated in the portions of  
the hose material which are adapted to form expansion  
portions.

16. A method according to any one of claims 13-15,  
c h a r a c t e r i s e d i n  
30 that the form material is an elastic material, which  
extends along the circumference of the hose material.

17. A method according to claim 16,  
c h a r a c t e r i s e d i n  
that the form material in the completed hose is arranged  
35 along the circumference of the hose material and provides  
a smooth outer face for the hose.

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ART 34 AMDT

18. A method according to any one of claims 13-16,  
c h a r a c t e r i s e d i n  
that the form material is removed from the hose material  
5 in order to form the completed hose.

19. A method according to claim 18,  
c h a r a c t e r i s e d i n  
that the form material has the property that it can be  
washed away from the hose material.

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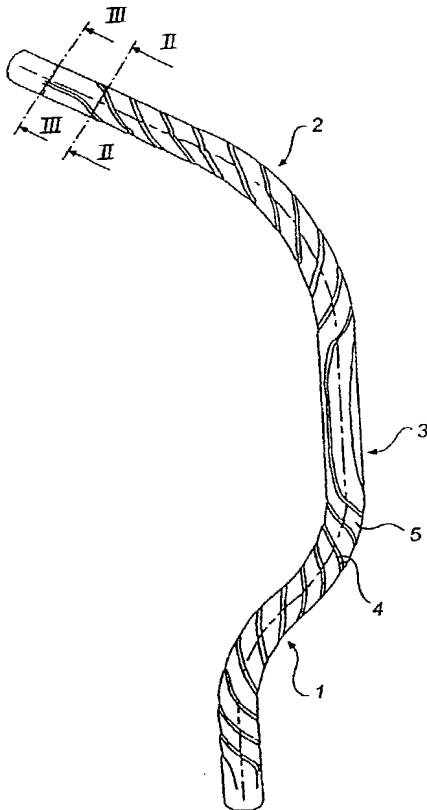
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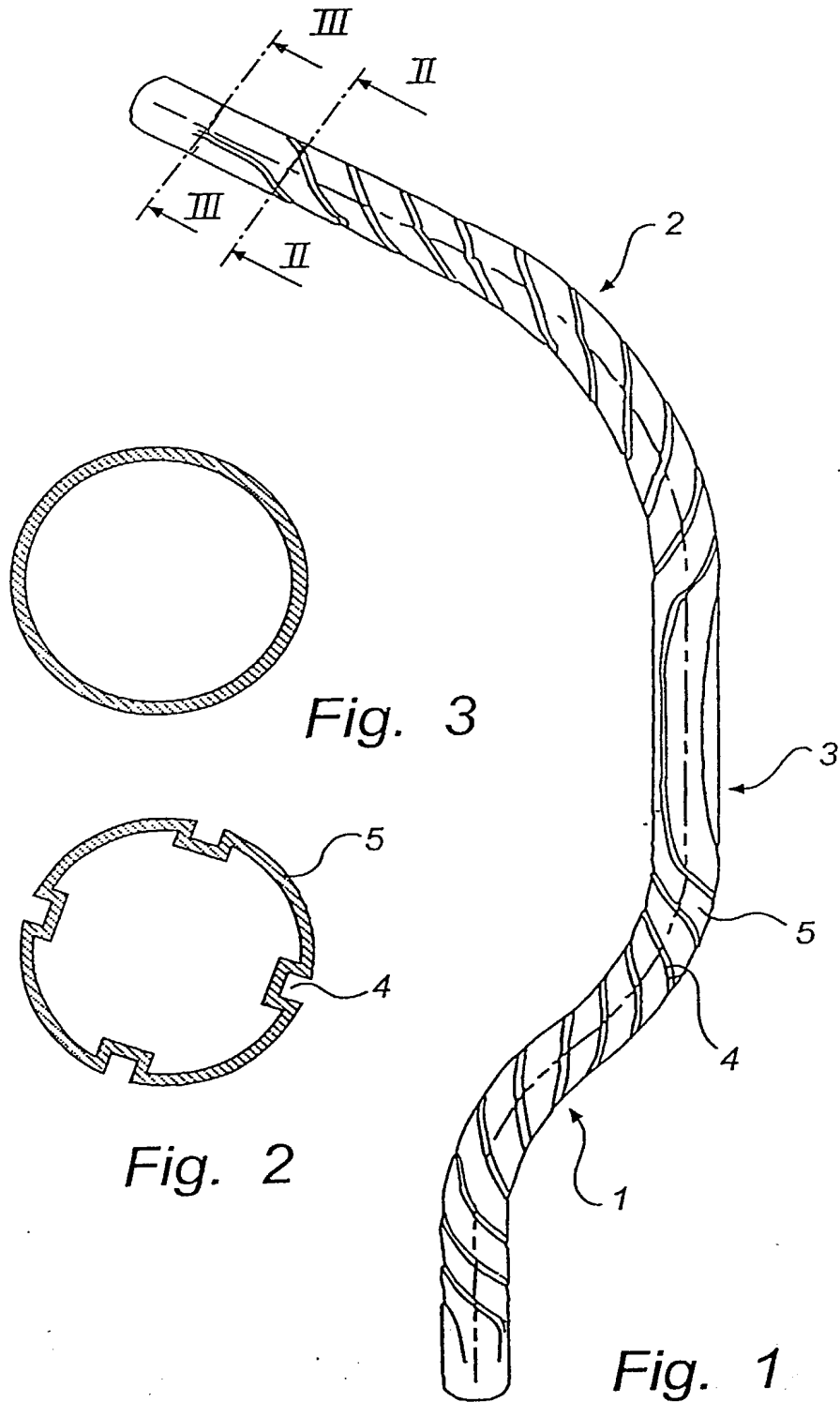
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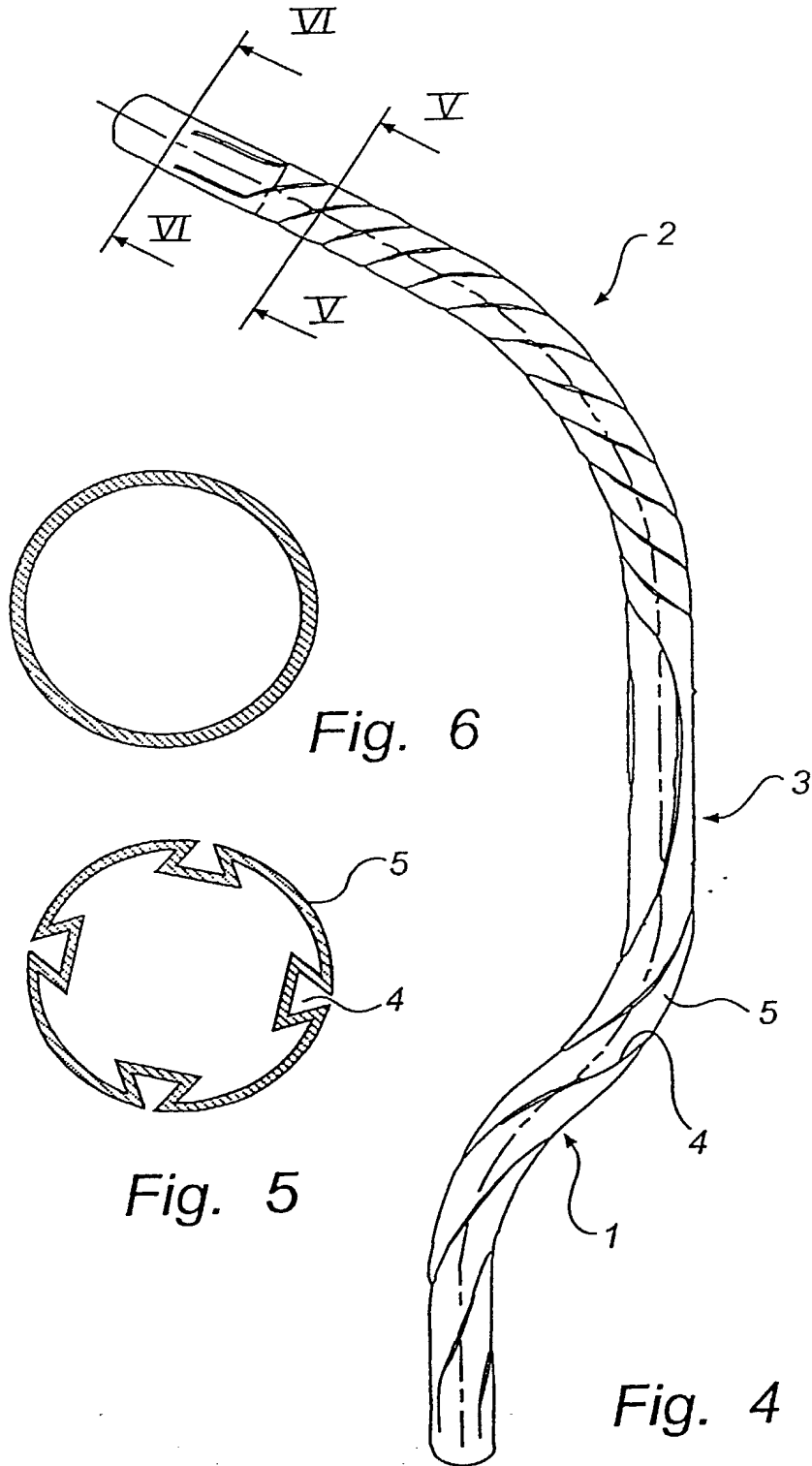


(57) Abstract: The present invention relates to a medium-carrying hose, preferably for pressure medium and for use in, for instance, an engine unit, the wall of the hose comprising at least one wall portion (5). The wall portion (5) is connected with at least one expansion portion (4) to form a continuous hose casing, so that the circumference of the hose is variable between a minimum value, when the expansion portion (4) is unexpanded, and a maximum value, when the expansion portion (4) is maximally expanded. The expansion portion (4) extends in the transverse and the longitudinal direction of the hose, the wall portions (5) being displaced relative to each other both in the transverse and in the longitudinal direction of the hose as the circumference increases and the expansion portion (4) expands. The invention also relates to a method for manufacturing such a hose.

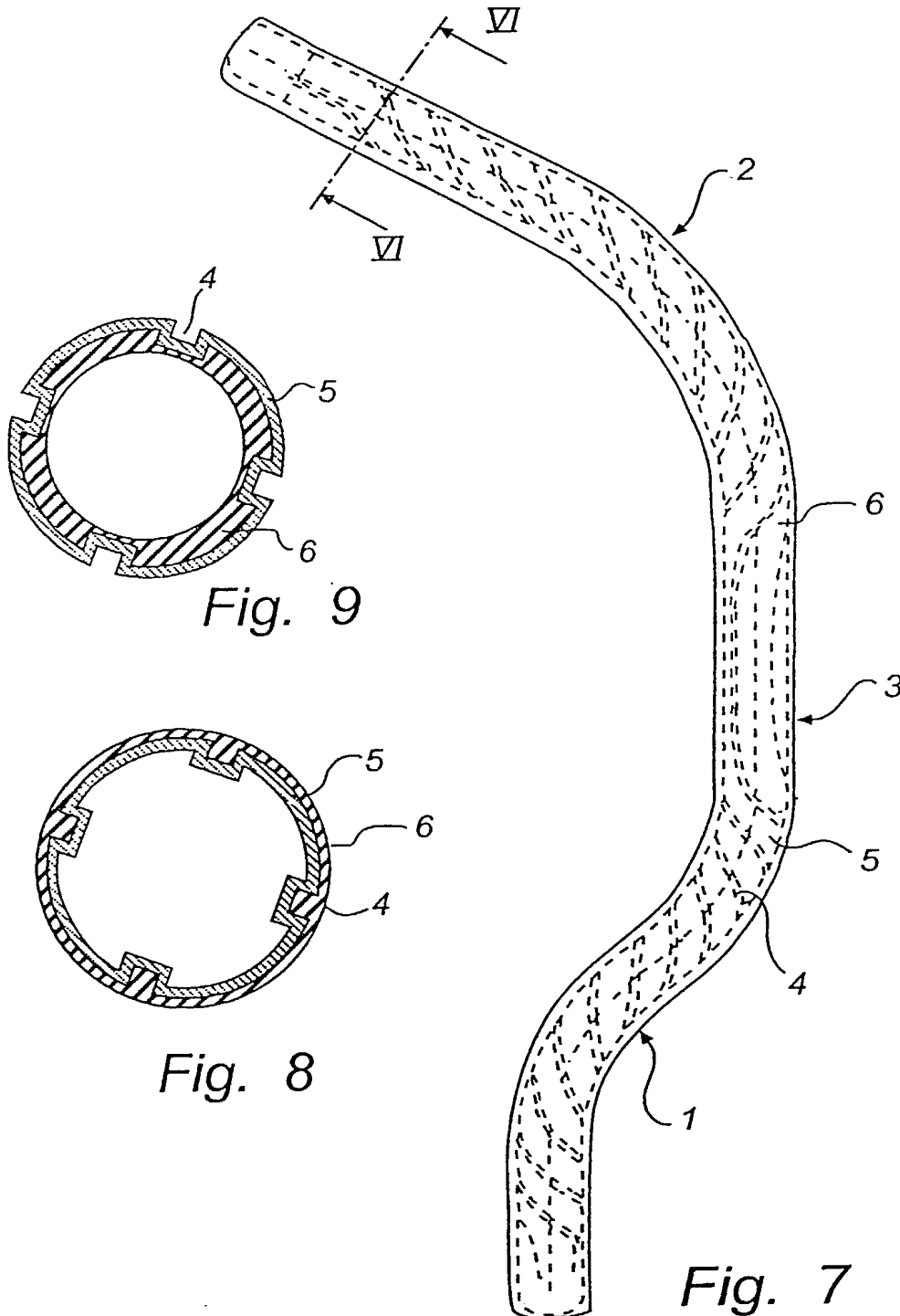
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**COMBINED DECLARATION AND POWER OF ATTORNEY  
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As a below named inventor, I hereby declare that: my residence, post office address and citizenship are as stated next to my name; that I verily believe that I am the original, first and sole inventor (if only one inventor is named below) or an original, first and joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Insert Title: HOSE

the specification of which is attached hereto. If not attached hereto, the specification was filed on December 28, 2001 as United States Application Number \_\_\_\_\_; and amended on \_\_\_\_\_ (if applicable) and/or the specification was filed on June 6, 2000 as PCT International Application Number PCT/SE00/01163; and was amended under PCT Article 19 on July 4, 2001 (if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56 I do not know and do not believe the same was ever known or used in the United States of America before my or our invention thereof, or patented or described in any printed publication in any country before my or our invention thereof or more than one year prior to this application, that the same was not in public use or on sale in the United States of America more than one year prior to this application, that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representative or assigns more than twelve months (six months for designs) prior to this application, and that no application for patent or inventor's certificate on this invention has been filed in any country foreign to the United States of America prior to this application by me or my legal representatives or assigns, except as follows.

I hereby claim foreign priority benefits under Title 35, United States Code, §119(a)-(d) of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed

Prior Foreign Application(s)			Priority Claimed	
<u>9902452-3</u> (Number)	<u>Sweden</u> (Country)	<u>June 29, 1999</u> (Month/Day/Year Filed)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<u>9903626-1</u> (Number)	<u>Swden</u> (Country)	<u>October 8, 1999</u> (Month/Day/Year Filed)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
_____ (Number)	_____ (Country)	_____ (Month/Day/Year Filed)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
_____ (Number)	_____ (Country)	_____ (Month/Day/Year Filed)	<input type="checkbox"/> Yes	<input type="checkbox"/> No

I hereby claim the benefit under Title 35, United States Code, §119(e) of any United States provisional applications(s) listed below.

Insert Provisional Application(s): (if any)	_____ (Application Number)	_____ (Filing Date)
	_____ (Application Number)	_____ (Filing Date)

All Foreign Applications, if any, for any Patent or Inventor's Certificate Filed More than 12 Months (6 Months for Designs) Prior to the Filing Date of This Application:

Country	Application Number	Date of Filing (Month/Day/Year)
_____	_____	_____
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(if appropriate)

I hereby claim the benefit under Title 35, United States Code, §120 of any United States and/or PCT application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States and/or PCT application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information which is material to the patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application

Insert Prior U.S. Application(s): (if any)	_____ (Application Number)	_____ (Filing Date)	_____ (Status - patented, pending, abandoned)
	_____ (Application Number)	_____ (Filing Date)	_____ (Status - patented, pending, abandoned)

